AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of processing a pixel of a digital image, the method comprising:

applying a tone mapping function to a first color channel of the pixel, the first color channel most closely matching relative luminance response of the human visual system;

computing scale factors for other channels of the pixel, the scale factors computed according to fixed offset values and ~~a change in value~~ values of the first color channel before and after the tone mapping function is applied, the fixed values offsetting the effect of noise in calculating the scale factors; and

applying the scale factors to the other color channels of the pixel.

2. (Original) The method of claim 1, wherein the color channels correspond to a positive linear color space.

3. (Previously presented) The method of claim 1, wherein the fixed values are a triplet of numbers proportional to a white point of a color space of the channels.

4. (Cancelled)

5. (Currently amended) The method of claim 1, wherein the first color channel is denoted by A_L and the other channels are denoted by A_K; and wherein the A_k color channels are transformed according to $A'_k = (A_k + A_{k(noise)}) / (A_L + A_{L(noise)}) \times A'_L$, where the fixed values are denoted by $A_{k(noise)}$ and $A_{L(noise)}$ and are small positive numbers.

Claim 6 (Cancelled)

7. (Currently amended) The method of claim 1, wherein the color channels are CIE tristimulus channels XYZ, wherein noise balancing terms X_{noise}, Y_{noise}, Z_{noise} are added to the color space and wherein the channels of the color space are modified as follows:

$Y'=TM(Y)$;

$X' = (X + X_{noise}) / (Y + Y_{noise}) \times Y'$; and

~~Z value of each pixel according to~~ $Z' = (Z + Z_{noise}) / (Y + Y_{noise}) \times Y'$.

8. (Previously presented) The method of claim 7, wherein the fixed values are a triplet of numbers proportional to the white point of the CIE tristimulus channels.

9. (Previously presented) The method of claim 1, wherein the channels are RGB color [space] channels, wherein the channels are modified as follows:

applying a tone mapping function to the G channel of each pixel to generate a tone-corrected relative luminance value G' for each pixel;

transforming the R value of each pixel according to $R' = (R + R_{noise}) / (G + G_{noise}) \times G'$; and

transforming the B value of each pixel according to $B' = (B + B_{noise}) / (G + G_{noise}) \times G'$,

where R_{noise}, G_{noise}, B_{noise} are the fixed values.

10. (Previously presented) The method of claim 9, wherein the fixed values are a triplet of numbers proportional to the white point of the RGB color channels.

Claims 11-13 (Cancelled)

14. (Previously presented) The apparatus of claim 18, wherein the pixels are processed independently, whereby a scale factor is specific to each pixel.

Claims 15-17 (Cancelled).

18. (Previously presented) Apparatus for processing pixels of a digital image, the apparatus comprising a processor for applying a tone mapping function to a first color channel of the pixels, computing scale factors for other channels of the pixels, and applying the scale factors to the other color channels of the pixels; wherein the scale factors are computed according to noise balancing terms and changes in values of the first color channel, and wherein the first color channel most closely matches relative luminance response of the human visual system.

19. (Previously presented) The apparatus of claim 18, wherein the scale factors are computed and applied as $A'_k = (A_k + A_{k(noise)}) / (A_L + A_{L(noise)}) \times A'_L$, where $A_{k(noise)}$ and $A_{L(noise)}$ are small positive numbers representing the noise balancing terms, A_L represents the first color channel, and A_k represents one of the other color channels.

20. (Previously presented) The apparatus of claim 18, wherein the noise balancing terms are a triplet of numbers proportional to a color space white point.

21. (Currently amended) An article for a processor, the article comprising memory encoded with data for instructing the processor to process pixels of a color digital image, the processing including applying a tone mapping function to a first color channel of the pixels, and computing scale factors for other channels of the pixels, the scale factors computed according to noise balancing terms and ~~changes in~~ values of the first color channel before and after applying the function,

[and] the processing further including applying the scale factors to the other color channels of the pixels; wherein the first color channel most closely matches relative luminance response of the human visual system.

22. (Previously presented) The article of claim 21, wherein the scale factors are computed and applied as $A'_k = (A_k + A_{k(noise)}) / (A_L + A_{L(noise)}) \times A'_L$, where $A_{k(noise)}$ and $A_{L(noise)}$ are small positive numbers representing the noise balancing terms, A_L represents the first color channel, and A_k represents one of the other color channels.

23. (Previously presented) The article of claim 21, wherein the noise balancing terms are a triplet of numbers proportional to a color space white point.

24. (Previously presented) The apparatus of claim 18, wherein the noise balancing terms are the same for all pixels in the image.

25. (Previously presented) The article of claim 21, wherein the noise balancing terms are the same for all pixels in the image.

26. (Previously presented) The apparatus of claim 18, wherein the color channels are CIE tristimulus channels XYZ, and wherein the color channels are modified as follows:

$Y' = TM(Y)$;

$X' = (X + X_{noise}) / (Y + Y_{noise}) \times Y'$; and

$Z' = (Z + Z_{noise}) / (Y + Y_{noise}) \times Y'$.

27. (Previously presented) The apparatus of claim 18, wherein the color channels are RGB color channels, and wherein the channels are modified as follows:

applying a tone mapping function to the G channel of each pixel to generate a tone-corrected relative luminance value G' for each pixel;

transforming the R value of each pixel according to $R' = (R + R_{noise}) / (G + G_{noise}) \times G'$; and

transforming the B value of each pixel according to $B' = (B + B_{noise}) / (G + G_{noise}) \times G'$,

where R_{noise}, G_{noise}, B_{noise} are the noise balancing terms.

28. (Previously presented) The article of claim 21, wherein the color channels are CIE tristimulus channels XYZ, and wherein the color channels are modified as follows:

$Y'=TM(Y)$;

$X' = (X + X_{noise}) / (Y + Y_{noise}) \times Y'$; and

$Z' = (Z + Z_{noise}) / (Y + Y_{noise}) \times Y'$.

29. (Previously presented) The article of claim 21, wherein the color channels are RGB color channels, and wherein the channels are modified as follows:

applying a tone mapping function to the G channel of each pixel to generate a tone-corrected relative luminance value G' for each pixel;

transforming the R value of each pixel according to $R' = (R + R_{noise}) / (G + G_{noise}) \times G'$; and

transforming the B value of each pixel according to $B' = (B + B_{noise}) / (G + G_{noise}) \times G'$,

where R_{noise}, G_{noise}, B_{noise} are the noise balancing terms.